

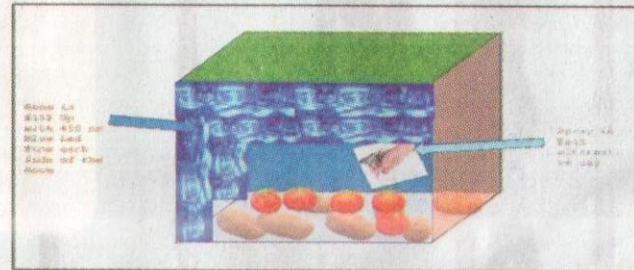
IIT Indore's game-changer: Smart storage for farmers

Our Staff Reporter

INDORE

Making its contribution to improving rural life through innovative research, Indian Institute of Technology Indore has developed an alternative to cold storage facilities for preserving vegetables and grains.

The system employs Photodynamic Inactivation (PDI) of microbes using a specially designed kit. This kit utilises a safe, derivatised Vitamin B2 spray as a photosensitiser and a flash visible light source at effective wavelengths of 455 and 476 nm. This combination effectively destroys microbes on open and packed food items, ensuring complete sterilisation and preventing microbial reproduction. This visible disinfectant lighting



system combines chemical and visual lighting.

Led by prof Debayan Sarkar, with significant contributions from student Niladri Sekhar Roy, this innovative technology provides a cost-effective and environmentally friendly solution to tackle post-harvest storage issues.

Sarkar said, The system incorporates IoT-enabled features for enhanced functionality. Farmers

can manage and monitor the device remotely through a mobile app, which also provides a user-friendly interface for customer interactions. A bottom-view camera is integrated for visualisation and monitoring during operation. Designed to fit in a small 10x10 ft room, the system can store significant quantities of vegetables and fruits, extending their shelf life and keeping them fresh longer.



Recognising the challenges faced by small and marginal farmers in Madhya Pradesh, IIT Indore has developed this system for preserving vegetables and grains

- Prof Suhas Joshi

Director, IIT Indore

IIT Indore's post-harvest storage solution promises to be a game-changer for small-scale farmers, providing an eco-friendly and cost-effective way to preserve their produce, enhance food security, and reduce environmental impact.

BENEFITS

- The system can fit in a 10x10 ft room
- Is safe, energy-efficient and customisable.
- Suitable for industrial use, warehouses and other large-scale applications
- Prioritises human health
- Delivered on a subscription model, the device is accessible and affordable for small farmers, reducing dependency on expensive cold storage facilities and increasing their profits